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PRODUCTION QUALITY, CONTROL, AND TESTING, GOST 16504-70.(U)
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FOREIGN TECHNOLOGY DIVISION

PRODUCTION QUALITY, CONTROL, AND TESTING
GOST 15504-70

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PRODUCTION QUALITY, CONTROL, AND TESTING
GOST 16504-70

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А а	*А а*	A, a	Р р	*Р р*	R, r
Б б	*Б б*	B, b	С с	*С с*	S, s
В в	*В в*	V, v	Т т	*Т т*	T, t
Г г	*Г г*	G, g	У у	*У у*	U, u
Д д	*Д д*	D, d	Ф ф	*Ф ф*	F, f
Е е	*Е е*	Ye, ye; E, e*	Х х	*Х х*	Kh, kh
Ж ж	*Ж ж*	Zh, zh	Ц ц	*Ц ц*	Ts, ts
З з	*З з*	Z, z	Ч ч	*Ч ч*	Ch, ch
И и	*И и*	I, i	Ш ш	*Ш ш*	Sh, sh
Й й	*Й й*	Y, y	Щ щ	*Щ щ*	Shch, shch
К к	*К к*	K, k	Ъ ъ	*Ъ ъ*	"
Л л	*Л л*	L, l	Ы ы	*Ы ы*	Y, y
М м	*М м*	M, m	Ь ь	*Ь ь*	'
Н н	*Н н*	N, n	Э э	*Э э*	E, e
О о	*О о*	O, o	Ю ю	*Ю ю*	Yu, yu
П п	*П п*	P, p	Я я	*Я я*	Ya, ya

*ye initially, after vowels, and after ъ, ь; e elsewhere.
When written as ё in Russian, transliterate as yё or ё.

RUSSIAN AND ENGLISH TRIGONOMETRIC FUNCTIONS

Russian	English	Russian	English	Russian	English
sin	sin	sh	sinh	arc sh	$\sinh^{-1}$
cos	cos	ch	cosh	arc ch	$\cosh^{-1}$
tg	tan	th	tanh	arc th	$\tanh^{-1}$
ctg	cot	cth	coth	arc cth	$\coth^{-1}$
sec	sec	sch	sech	arc sch	sech^{-1}
cosec	csc	csch	csch	arc csch	csch^{-1}

Russian	English
rot	curl
lg	log

USSR STATE STANDARD

PRODUCTION QUALITY, CONTROL, AND TESTING

Terms and Definitions

GOST 16504-70

OFFICIAL PUBLICATION

State Committee of Standards
USSR Council of Ministers
Moscow

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USSR STATE STANDARD

PRODUCTION QUALITY, CONTROL AND TESTING GOST

Terms and Definitions 16504-70

[Product Quality. Tests and Inspections. Terms.]

By Decree of the State Committee of Standards of the USSR Council of Ministers of 21 December 1970 No 1786 the period of implementation is established from

1/1 1972

This standard establishes the terms and definitions, applicable in science, engineering and production, of the basic concepts in the area of quality control and product testing.

The terms established by this standard are compulsory for use in documentation of all types, textbooks, training manuals, and in technical and reference literature. In other cases the use of these terms is recommended.

The terms given in the standard have been formulated on the basis of the main terms in the area of production quality which were established by GOST 15467-70.

In the standard all the terms and definitions are given relative to production, which is viewed as a generalized concept. Production can consist of parts and products. The terms and definitions which pertain to production are applied to parts and products.

One standardized term is established for each concept. It is not permitted to use synonyms for a standardized term.

It is permitted to use terms, not established by the current standard, but reflecting the specific features of production of a particular branch.

In the standard the main terms are set in half-dark type [numbered upper case letters], those not permitted - in italics [underlined].

At the end of the standard there is an alphabetical index of the standardized terms.

The standard contains an appendix 1, which contains explanations and annotations to the established terms, and an appendix 2, containing the classification of types of testing.

Term	Definition
CONTROL	
1. CONTROL OF PRODUCTION QUALITY [Контроль качества продукции]	According to GOST 15467-70
2. CONTROL OF TECHNOLOGICAL PROCESS [Контроль технологического процесса]	Check of the conformity of characteristics, performance, and other indices of the technological process to the established requirements
3. OPERATIONAL CONTROL [Операционный контроль]	Control of production and (or) the technological process after completion of a specific production operation
4. FLOOR CONTROL [Летучий контроль] Spot check [Внезапный контроль] not permitted	Control of production or control of a technological process which does not have a fixed period of execution
5. INSPECTION CONTROL [Инспекционный контроль]	Spot check of production or control of a technological process which is conducted after operational control or acceptance check by a specially authorized agency
6. ACTIVE CONTROL [Активный контроль]	Control of production or a technological process, carried out during the process of product manufacturing by measuring devices built into the technological equipment and used for control of the manufacturing process
7. CONTINUOUS CONTROL [Сплошной контроль] Hundred per cent control [Стопроцентный контроль] not permitted	Control, during which a decision on the quality of the controlled product is made based on the results of a check of each unit of production
8. SPOT CHECK [Выборочный контроль]	Control, during which a decision on the quality of the controlled product is made based on the results of a check of one or several samples or specimens from a batch or production flow

Term	Definition
9. INPUT CONTROL [Входной контроль]	Control by the user of the raw material, materials, component parts, and finished products which arrive from other enterprises or production sections
10. ACCEPTANCE CHECK [Приемочный контроль] Output control [Выходной контроль] not permitted	Control of finished production, during which a decision is made concerning its suitability for delivery or use
TESTING	
11. PRODUCT TESTING [Испытания продукции]	Experimental determination of the values of parameters and the indices of quality of a product in the process of operation or under simulated operating conditions, and also when specific effects on the product are reproduced according to an assigned program
12. CHECK TESTS [Контрольные испытания]	Tests performed for checking the quality of production
13. RESEARCH TESTS [Исслдовательские испытания]	Tests of a product conducted for the purpose of studying its parameters and indices of quality
14. RELIABILITY TESTS [Испытания на надежость]	Product testing for the purpose of determining reliability indices
15. STORAGE TESTS [Испытания на сохраняемость]	Product testing for the purpose of determining the indices of keeping qualities
16. TRANSPORTABILITY TESTS [Испытания на транспортабельность]	Product testing for the purpose of determining the indices of transportability
17. RESOURCE TESTING [Ресурсные испытания] Service-life testing [Испытания на долговечность] not permitted	Product testing for the purpose of determining the indices of service life Note. During resource testing usually the indices of trouble-free operation and maintainability are determined

Term	Definition
18. PRELIMINARY TESTS [Предварительные испытания]	Check tests of prototypes or test batches for the purpose of resolving the question of whether or not they are ready for presentation for state, interdepartment, or department testing
19. STATE TESTING [Государственные испытания]	Check tests of prototypes or test batches of production, and also parts of unit production, conducted by a State commission for determining the advisability of production or their transfer into service (in the case of parts of unit production)
20. INTERDEPARTMENT TESTS [Межведомственные испытания]	Check tests of prototypes or test batches of production, and also parts of unit production, conducted by a commission appointed by several interested ministries or departments, for the purpose of determining the advisability of production or their transfer into service (in the case of parts of unit production)
21. DEPARTMENT TESTS [Ведомственные испытания]	Check tests of prototypes or test batches of production, and also parts of unit production, conducted by a commission appointed by several interested ministries or departments, for the purpose of determining the advisability of production or their transfer into service (in the case of parts of unit production)
22. ACCEPTANCE-RELEASE TESTING [Приемо-сдаточные испытания] Acceptance tests [Приемочные испытания], Plant acceptance tests [Заводские приемочные испытания] not permitted	Check tests of finished production, conducted by the manufacturer during the acceptance check

Term	Definition
23. PERIODIC TESTS [Периодические испытания] Type-approval tests [Типовые испытания] not permitted	Check tests of finished production, carried out periodically in scope and time as established by the technical specifications
24. TYPE-APPROVAL TESTS [Типовые испытания] Check tests [Проверочные испытания] not permitted	Check tests of finished production before and after implementation of changes in design or technology of production for the purpose of checking the effectiveness of the changes made or comparing the quality of products which are put out at different times
25. CERTIFICATION TESTS [Аттестационные испытания]	Research testing of production for preparation for state, industry, or plant certification
26. PARAMETER-LIMIT TESTING 26. [Граничные испытания]	Research testing conducted for determining the limits of permissible values of parameters of parts under the influence of assigned factors
27. ACCELERATED TESTING [Ускоренные испытания]	Production tests which yield information on the parameters and quality indices in shorter periods than under conditions of operation by the user
28. DESTRUCTIVE TESTING [Разрушающие испытания]	Tests, after which the product being checked becomes unsuitable for issue to the user
29. NONDESTRUCTIVE TESTING [Неразрушающие испытания]	Tests, after which the product being checked remains suitable for issue to the users
30. PERFORMANCE TESTS [Эксплуатационные испытания]	Tests of finished production which are conducted under operational conditions

ALPHABETICAL INDEX OF TERMS [Cyrillic]

Appendix 1 to GOST 16504-70
Tentative

EXPLANATIONS AND EXAMPLES OF TERMS

For the term "Acceptance check"

In the majority of case the acceptance check is made by divisions of technical control or agencies which replace them.

For the term "Product testing"

Product[ion] testing is a generalizing concept. Particular cases of product[ion] testing are the testing of parts and the testing of products.

Tests can be carried out for the purpose of quality control of production, for example: "preliminary tests," "state testing," "department tests," and for the purpose of studying the properties of a product, for example, "research tests." Some forms of testing can be carried out both for quality control of production and for studying its properties, for example: "reliability tests," "storage tests."

The interdependence between testing and control can be shown in examples. Control of a fabric includes:

a) inspection for the detection of stains, establishing the satisfactoriness of design, etc.;

b) measurements of the length, width, and thickness of the fabric.

It is not obligatory that fabric control be accompanied by its testing.

Control of an automobile includes:

a) inspection for revealing external defects;

b) measurements for establishing overall dimensions, mass, tightening of nuts, etc.;

c) road tests under different climatic conditions and on different types of roads.

In a number of cases tests are not compulsory in control. As an example, testing does not have to be conducted in acceptance checks of bolts, control is reduced to inspection of measurements. In other cases testing is an inherent part of control, periodic testing for example.

For the term "Research tests"

The purposes of research tests are, for example, determination of the limits of durability of parts, determination of the laws of distribution of part resources, construction of fatigue curves for parts, study of the dynamics of wear processes, study of the influence of climatic factors or aggressive media on a part, etc.

In some branches, electronic engineering for example, research testing of component elements and standardized modules and units, during which the laws of distribution of reliability indices and their statistical ratings are determined, is called determinative testing.

For the term "Reliability tests"

In practice it is comparatively rarely possible to organize reliability tests in which the indices of all the properties which make up reliability are determined. In connection with this in practice it is planned to have, in addition to comprehensive reliability tests, those in which the individual properties of reliability are established. For example, it is almost always necessary to conduct special tests for the evaluation of keeping qualities. Thus reliability tests also include those in which not all the components are established (for example, keeping qualities are not established).

For the term "Storage tests"

When testing keeping qualities it is mainly the period of storage which is determined, that is, the possibility of trouble-free operation after storage for a certain period of time.

For the term "Transportability tests"

In transportability tests it is mainly the probability of trouble-free transportation for a specific period of time, the average time of trouble-free transportation, which is determined.

For the term "Resource testing"

Resource testing is usually carried out under special conditions which speed up the obtaining of the main form of breakdown. In this case the accepted conditions may turn out not to be optimal for the exposure of failures which are secondary in their importance. Together with this, in many cases in the course of resource testing it is possible to obtain information about the trouble-free operation and maintainability of a part.

For the term "Periodic tests"

Periodic tests are conducted in those cases when it is impossible or inexpedient to determine the technical characteristics (reliability indices for example) of a part during acceptance-release testing.

Example. The life of an electric light bulb cannot be determined in acceptance-release testing due to its briefness. Therefore it is expedient to determine the life of a bulb with periodic tests, the duration of which is sufficient for this purpose.

Periodic testing makes it possible to check if the quality of a product is maintained at the required level.

For the term "Type-approval tests"

In accordance with the definition, type-approval tests are carried out when there is a change in the design of a part or in the technology of its production.

Example. Alloyed steel, from which outer and inner raceways are manufactured, is replaced by a new brand which costs less. For the purpose of checking the effectiveness of the change in the material it is necessary to run tests on the bearings. These are type-approval tests.

Type-approval tests should be conducted according to a program which ensures the comparability of test results before and after the changes are made. In this particular case this means that the tests of the bearings with raceways made from the new brand of steel should be conducted, for example, under the same loads and temperatures at which the tests of bearings with raceways made from the old material were conducted.

For the term "Accelerated testing"

A particular case of accelerated testing are the augmented tests, in which the obtaining of a result is speeded up by means of increasing the loads, temperatures, pressures, velocities, and other factors.

Example 1. Electron tubes are tested at a temperature of +100°C, while they usually operate at temperatures from +20 to +30°C. Such a temperature mode makes it possible to cut down the period of testing.

Example 2. A reduction in the period of testing electric light bulbs, rated for a voltage of 220 V, is achieved, for example, by testing them at a voltage of 240 V.

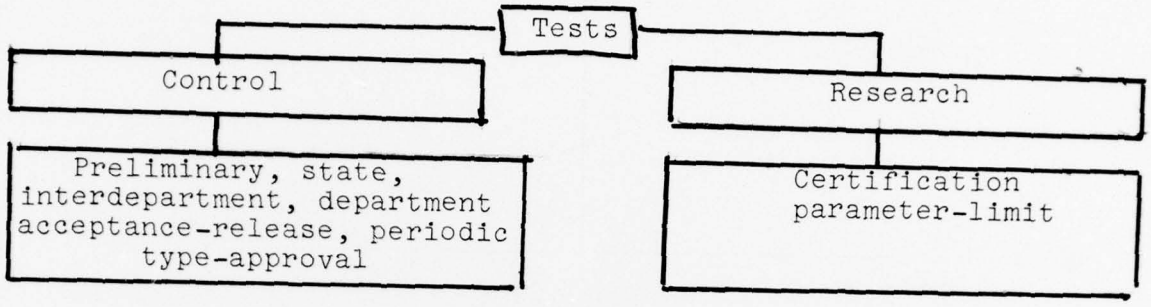
For the term "Performance testing"

Performance testing is a generalizing concept. It does not include such concepts which are used in industry as "test operation," "controlled operation," which are types of performance testing and are subject to inclusion in the branch [of industry] standards.

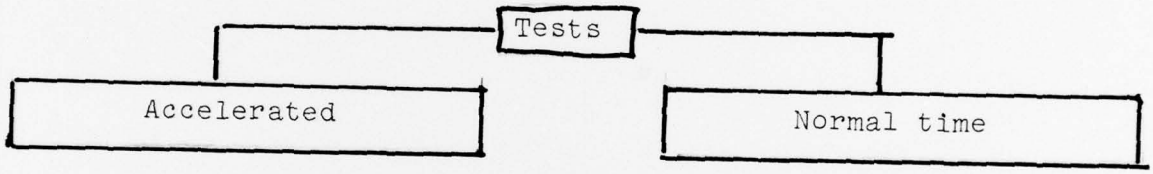
Appendix 2 to GOST 16504-70
Tentative

CLASSIFICATION OF TYPES OF TESTS

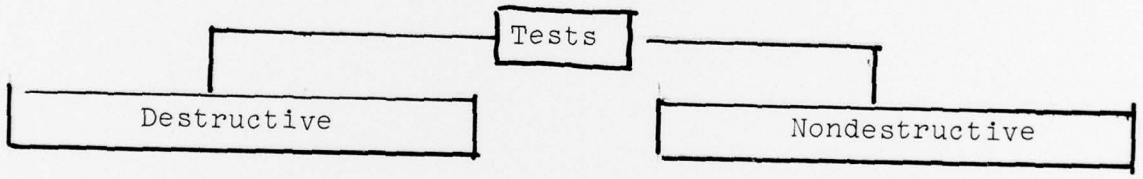
1. By purpose



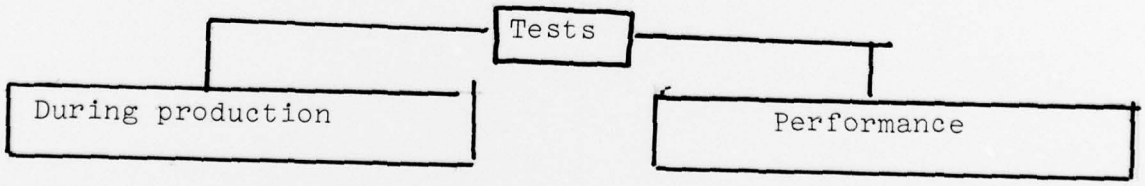
2. By time



3. By method



4. By stages



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